



State of Connecticut

REPORT

OF THE

Connecticut Agricultural College

FOR

1907-1908

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ANNUAL REPORT OF THE TRUSTEES
OF THE
CONNECTICUT
AGRICULTURAL COLLEGE

AT
STORRS, CONN.

For the fiscal year embraced within the first day of October,
1907, and September 30, 1908; and for the year in other
matters, December 1, 1907, to November 30, 1908.

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THE BOARD OF CONTROL

The Connecticut Agricultural College

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Member of Station Council

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Conn. Ag. Expt. Sta. g. '08

Officers of Instruction and Administration

November 30, 1908

CHARLES LEWIS BEACH, B. Agr., B.S.
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Instructor in Mechanic Arts. Superintendent of Buildings

*Arranged in order of appointment

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JOHN MAIN TRUEMAN, B. S. A.
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College Chaplain

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Faculty Committees

COMMITTEE ON COURSES OF STUDY

Professor Clinton	Professor Gulley
Professor Trueman	Miss Thomas
Mr. Fitts	

COMMITTEE ON DISCIPLINE

Professor Montieth	Professor Smith
Mr. Lamson	Professor Blakeslee
Professor Stoneburn	

STATUS COMMITTEES

First-year students, Professor Wheeler.

Second-year students, Professor Blakeslee.

Third-year and post-graduate students in Agriculture, Professor Clinton.

Mechanic Arts students, Mr. Fitts.

Domestic Science students, Miss Thomas.

Fourth-year Dairying and Poultry students, Professor Trueman.

Fourth-year Horticultural students, Professor Gulley.

The Storrs Agricultural Experiment Station

A DEPARTMENT OF THE
CONNECTICUT AGRICULTURAL COLLEGE

Station Council

C. L. BEACH	<i>Ex-officio</i> as President
H. G. MANCHESTER	Appointed by Board of Trustees
L. A. CLINTON	<i>Ex-officio</i> as Director
CHARLES THOM	Appointed by Station Staff
F. H. STONEBURN	Appointed by Station Staff

Station Staff

L. A. CLINTON, M.S.	Director
J. M. TRUEMAN, B.S.A.	Dairy Husbandman
W. M. ESTEN, M.S.	Dairy Bacteriologist
F. H. STONEBURN	Poultryman
C. D. JARVIS, B.S.A.	Horticulturist
CHAS. THOM, Ph.D.	Cheese Expert, Mycologist
*A. W. DOX, A.M.	Cheese Expert, Chemist
G. H. LAMSON, JR., M.S.	Entomologist
C. J. GRANT, B.S.A.	Cheese Maker
H. D. EDMOND, B.S.	Chemist
*CHRISTIE J. MASON, B.Agr.	Assistant Bacteriologist
GRACE E. SEAGE	Assistant Bacteriologist

*On leave of absence

*To His Excellency, GEORGE L. LILLEY,
Governor of the State of Connecticut:*

I have the honor to submit herewith the Report of the Board of Trustees of The Connecticut Agricultural College for the fiscal year ended September 30th, and for the year in other matters ended November 30, 1908.

Very respectfully,

*C. A. CAPEN,
Secretary of the Board of Trustees.*

Report of the President

The Trustees of The Connecticut Agricultural College:

I have the honor to present to you for transmission to the Governor of Connecticut, a report of the Agricultural College for the year ending November 30th, 1908.

On February 20th, 1908, Rufus Whittaker Stimson, President of the College, presented his resignation, to take effect at the close of the college year, with the request that he be released from active duties immediately following commencement.

President Stimson had been connected with the college for eleven years, four years as professor of English literature, and seven years as president.

The following resolutions were passed unanimously:

"President R. W. Stimson became acting president of the Agricultural College in 1901, and president in 1902. When he assumed the office the college was at a low ebb. It had no settled policy, and no accepted place in the educational system of Connecticut. The courses of study were but vaguely defined, the number of students was very small, and the college was becoming so sharply and generally criticised that its future was extremely uncertain.

"Under President Stimson's administration the policy of the college and its place in our educational system have been definitely fixed and accepted by the public. The courses of study have been clearly defined, the number of students has greatly increased, and the new short winter courses for farmers, and the summer school for teachers, have proved most popular and profitable.

"As a result of these things, the institution has won the respect and regard of other similar institutions throughout the country, and of its friends in this state. Its material resources have been greatly increased, and its future is assured.

"The Board of Trustees gratefully acknowledge the services rendered to the college and to the whole state by President Stimson's labors in the past seven years, and in accepting his resignation, desire to record their acknowledgment, and to wish for him like success in the new work of organization which he leaves us to undertake."

The acceptance of President Stimson's resignation necessitated the appointment of an acting president, and on April 25th the Board of Trustees voted:

"That Professor E. O. Smith be and hereby is appointed acting president, with full power and authority of president, until such time as the president-elect (Professor C. L. Beach) shall assume the active duties of his office."

Professor Smith served in the capacity of acting president until September 15th, and in an able and most satisfactory manner.

FACULTY

Professor Charles K. Graham, who had been for three years professor of poultry husbandry, resigned in June to accept the position of director of the agricultural department at Hampton Institute.

Professor Graham was an enthusiastic poultryman, and in the short time in which he was here did much to promote the poultry industry of the state, and to organize an effective State Poultry Association. Frederic H. Stoneburn, instructor in poultry husbandry from 1902 to 1905, returns to the college to succeed Professor Graham.

Dr. E. H. Lehnert, professor of veterinary science and chemistry, resigned in June to accept a position at the Smith's Agricultural School at Northampton. Dr. Lehnert had been connected with the institution for seven years, and was an efficient teacher and skilful practitioner. Dr. B. K. Dow, a graduate of the Ontario Veterinary College, has been appointed lecturer in veterinary science, and Howard D. Newton, a graduate of the Massachusetts Agricultural College, has been secured as instructor in chemistry.

Ernest D. Proudman, chief clerk and steward, resigned in October to accept a position with Professor Graham at Hampton Institute. Mr. F. C. Gunther has been engaged as chief clerk, and Miss Susy D. Rice has been secured to manage the boarding club.

ENROLMENT

The enrolment for the calendar years ended November 30, 1906, 1907, and 1908, is as follows:

	1906	1907	1908
Regular long-course students	112	131	167
Winter-school students	32	35	25
Summer-school students	84	94	94
Total	228	260	286

The above figures show an increase in the total enrolment of 25%, and in the case of regular long-course students, 49% in 1908 over 1906. This increase in attendance is gratifying as showing an increasing appreciation of the instruction offered, but disconcerting when considered in connection with our present accommodations.

NEEDS OF THE COLLEGE

DINING HALL—The number of students that the college can accommodate at one time is limited by the capacity of the dining hall and dormitories, the number and size of class-rooms, and the number of instructors.

The dining room will seat at one time 108 persons. At present 36 students are required to wait to be served at a second table, and next term as many more special students now registered will be cared for in a similar manner. Should the registration in 1909 be in proportion to the increased registration of this year over last, then each seat in the dining hall would be filled twice at each meal. We are soon to be confronted, therefore, with the condition of being unable to educate more students because of an inability to feed them. One of the present needs of the institution is a boarding hall, to include dining room and kitchen, with rooms for steward and assistants. The room now occupied in the Main Building by the boarding club is much needed for class-rooms and library.

DORMITORIES—The three buildings designated as Whitney Hall, Gold Hall, and Storrs Hall are used in whole or in part for the accommodation of male students. Whitney Hall may no longer be classed as a dormitory. One room in this building has been set aside as a studio for the instructor in elocution, one room each for free-hand drawing, mechanical drafting, and bookkeeping, suites of three to seven rooms each are occupied by three families, and three rooms serve as living quarters for two instructors, leaving only five rooms for the accommodation of possibly eight students.

Gold Hall has one room reserved as a guest room, one suite of three rooms and one suite of six rooms for two families, leaving thirteen rooms for the accommodation of twenty students.

The new dormitory, Storrs Hall, has thirty suites of three rooms each, and six single rooms, designed to accommodate sixty-six students. Three students are assigned at present to each of the thirty suites, which were originally designed for the accommodation of two students each. The total rooming accommodations for male students in the three halls is therefore one hundred and twenty-four. The male boarding students now in attendance, together with those registered for the winter courses, is one hundred and forty.

COTTAGES FOR MEMBERS OF THE FACULTY—There is need for four or more cottages for the accommodation of members of the faculty and their families. Not only are these cottages required for the convenience and comfort of those who are to occupy them, but the dormitory rooms now used by members of the faculty are greatly needed for the accommodation of students.

VALENTINE FARM—For a number of years the college, in order to secure sufficient land for tillage and pasture, has rented the Valentine farm, consisting of about one hundred acres, the Storrs residence, and two cottages. The Storrs residence and the two cottages are now occupied by members of the faculty and employees of the college, with their families. This property was purchased a few years ago by the vice-president of the Board of Trustees, the Hon. G. S. Palmer of New London, and can now be had by the reimbursement of Mr. Palmer for the original cost and the subsequent actual outlay.

For the purchase of this property a special state appropriation of \$8,500 will be necessary.

STEEL WATER TOWER AND TANK—The college water supply is taken from an artesian well 850 feet in depth, raised by gasoline engine and wind power, and stored in an elevated tank. Last year the wooden tank was pronounced unsafe, and it became necessary to replace it, which was done by the erection of a steel tower and tank, and the installation of a gasoline engine and windmill.

The Trustees were reluctant to authorize so large an expenditure for a single purpose, and without special grant, but the emergency of the case was a warrant for the procedure.

To reimburse the college for this expenditure, a special appropriation of \$4,101.56 is asked.

FURNISHING THE HORTICULTURAL BUILDING—Two years ago the General Assembly made an appropriation of \$50,000 for the erection of greenhouses and a horticultural building. The range of greenhouses erected during the past year embraces a forcing house for vegetables, one for roses and carnations, a show-plant house, a large house in which to grow to full size various economic plants of warmer countries, a propagating house for growing bedding plants for the grounds, a vinery, and also a students' greenhouse laboratory.

The main horticultural building, 45x75 feet, has been erected. This building will have in the basement a large room in which to show and operate spray apparatus, rooms in which to store various spray materials, a room in which to prepare vegetables for market, also cool rooms to store fruits and vegetables. The first floor is planned for a class room to seat fifty students, a working laboratory, and the necessary offices. The second floor will have a laboratory for drawing and microscopic work, a large museum, and rooms for botanical work.

An appropriation of \$5,000 will be needed to furnish this building.

COAL-BUNKER AT EAGLEVILLE—The college uses during the year about 1000 tons of coal, which is hauled by team from Eagleville at a cost of \$1.00 per ton. This coal is purchased for delivery largely during the winter months in order that farm teams otherwise idle may be used to advantage. The minimum price of coal, however, is

in April, when the roads are usually impassable for heavy teams, and the price at the mines advances at a rate of ten cents per month for five months. The maximum price then prevails for the remainder of the year. Cars are often delayed in transit and bunched in delivery, with the result that demurrage charges are unavoidable. A saving in the first cost and in the delivery of coal, estimated at \$500 per year, can be made if the supply be purchased at the minimum price, stored at Eagleville, and hauled at times when the farm teams are otherwise not in use.

The cost of a coal-bunker at Eagleville should not exceed \$1000.

POULTRY BUILDINGS—Dairying, horticulture, and poultry husbandry are the three special agricultural industries of Connecticut. For each dollar invested in land, stock, buildings, and equipment for instruction or investigation in 1907, Connecticut produced in 1900 dairy products to the value of \$290.00, horticultural products to the value of \$89.00, and poultry products to the value of \$349.00. From these figures it will be observed that poultry husbandry returns in the value of its annual production one and two-tenths times as much as dairying and four times as much as horticulture for every dollar invested in land, stock, buildings, or equipment used for instruction or investigation.

The horticultural department of the college is now well equipped with orchards and buildings, the dairy department with creamery and live stock, but it is recognized that our poultry department has inadequate buildings, poorly located.

I would suggest, therefore, that the General Assembly be asked to appropriate \$24,000 for the erection of poultry buildings with class rooms and laboratories, incubation rooms and brooder houses.

LIBRARY DEPARTMENT—The library is the center of the intellectual life of a college, and serves all students of all departments. Our college library long ago outgrew its present quarters, and the few books now bought can be only those which are absolutely necessary for instruction. Hundreds of books and valuable periodicals are now stored in the attic, where they must remain inaccessible until a suitable place is provided for them. Our library of 11,000 volumes, with reading room and store for supplies, serving a student body of over 150 in number in addition to the faculty, is now quartered in two small rooms with a total area of less than 600 square feet of floor space.

It is to be hoped, therefore, that the request for a dining hall made elsewhere may be granted, in order that the present dining room may be used for library purposes.

EXPERIMENT STATION—For the past ten or twelve years the State Legislature has made an annual appropriation of \$1,800 to the Storrs Agricultural Experiment Station. The work of the station

should be strengthened along the lines of the best methods of feeding and caring for dairy cows, so that there shall be produced economically a wholesome article of food; poultry experiments for the purpose of determining conditions which affect the vitality of the chick, artificial incubation and brooding, and the best methods of successfully and economically managing a poultry plant; soil fertility experiments to determine how lands may be maintained unimpaired, how our natural resources may be used to advantage in producing farm crops; stock feeding and breeding with special reference to the improvement of pasture lands by means of sheep.

The dissemination of agricultural information by means of bulletins and leaflets, by lectures, by demonstration experiments throughout the state, and by co-operating in every way possible with the various agricultural organizations in their work, would also be desirable.

I would suggest, therefore, that we ask the General Assembly for an increase in appropriation to \$20,000 for two years.

SUMMARY OF THE NEEDS OF THE COLLEGE

In addition to the present allowance for current expenses, the following is a summary of the special needs of the college and station:

Valentine Farm	\$8,500.00
Steel Tower and Tank	4,101.56
Four Cottages for Faculty	18,000.00
Furnishing Horticultural Building	5,000.00
Dining Hall	30,000.00
Poultry Buildings	24,000.00
	<hr/>
	\$89,601.56

INFORMATION IN RELATION TO THE INTERNAL AFFAIRS OF THE COLLEGE

PROPORTION OF TEACHERS TO STUDENTS—Our college has sometimes been criticised on account of the large faculty and small student body. The criticism is one worthy of consideration, and if true, casts a reflection on administrative management.

The number of students now receiving instruction, excluding winter short course and summer school pupils, is 155. Nine members of our faculty may be rated as giving all their time to instruction; five, one-half time; two, three-quarter time; and six, one-quarter time, or a total equivalent to fifteen full-time teachers. The ratio, therefore, of teachers to pupils is one to ten, as compared with an average of

one to eleven in ninety-five undergraduate institutions listed in Bulletin 2 (Table 10) of the Carnegie Foundation for the Advancement of Teaching, as shown below:

Instructors and Pupils.	Number of Institutions
1 to 4	2
1 " 5	1
1 " 6	4
1 " 7	9
1 " 8	8
1 " 9	8
1 " 10	20
1 " 11	8
1 " 12	5
1 " 13	7
1 " 14	4
1 " 15	4
1 " 16	5
1 " 17	1
1 " 18	3
1 " 19	2
1 " 20	2
1 " 24	1
1 " 25	1
Average 1 to 11	Total 95

AMOUNT OF TEACHING DEMANDED OF INSTRUCTORS—The Carnegie Foundation reports that "a full professor in the stronger universities is called upon to give from six to twelve hours a week of lectures or recitations, counting two hours of laboratory exercises as equivalent to one hour of lecture or recitation. In the better smaller universities and colleges from twelve to fifteen hours a week of lectures and recitations are counted as the ordinary work of a professor. In a number of institutions as many as twenty-five hours a week of recitations and lectures are demanded. Such excessive demands upon a professor are invariably associated with low standards, the efforts for numbers and the wide-spread attempt in American colleges to give instruction on every conceivable subject. The number of teaching hours a week imposed upon the teacher, and the amount of administrative detail added to them, are directly related not only to the question of good teaching, but also to the possibilities of the teacher for study, for growth, and for scholarly productiveness."

The number of lectures given or recitations held by the fifteen full-time instructors in the college, counting two hours laboratory as equivalent to one lecture or recitation, excluding teaching in the win-

ter courses and summer school, was 6692 hours, or an average for each instructor of twelve hours of lecture or recitation for each of the thirty-six weeks in the winter, spring, and fall terms of 1908.

SIZE OF CLASSES AND EFFICIENCY OF INSTRUCTION—It has been pointed out that the ratio of students to instructors in our institution is ten to one. The distribution of the students in classes is uneven, however, varying from one to three students in some classes to forty or more in others. The number of students of mature age that may profit by a lecture course is unlimited, but in many of the subjects taught in our institution, taken in connection with the age and lack of preparation of pupils, the results obtained are no doubt seriously affected by reason of too large classes and the inability of the instructor to give to each student individual attention. The division of classes into sections, doubling the hours of the instructor, will in some cases be necessary and desirable, but there is a limit to this expedient on account of the limited number of class rooms.

In bacteriological and botanical laboratory exercises, dairy practice, iron and wood work, forging, farm and horticultural practicums, divisions into sections are now necessary. When two laboratory courses are offered to the same class by different departments, arrangements can be made for alternation of sections. This arrangement cannot always be effected, however, and it is impossible when two laboratory classes report to the same instructor or when only one laboratory exercise per week is scheduled, with the result that classes receive one-half the instruction catalogued.

A building with larger and more numerous classrooms, therefore, will shortly be a necessity.

ADVANCED COURSE—The advanced course leading to the degree B. S. has thus far attracted but few students. With our present income and teaching force, additional courses of study or subjects in the curriculum are not desirable. On the contrary, the time and energy of the instructors spent with less than half a dozen students in this course might be used to better advantage in strengthening the work taken by a larger number of students of the regular four-year course.

CULTURAL AND AGRICULTURAL INSTRUCTION—In the four-year agricultural course, 324 hours are assigned to mathematics, 252 hours to history, 540 hours to English, 658 hours to the sciences, 48 hours to economics, 72 hours to free-hand drawing, 46 hours to book-keeping, and 443 hours to military tactics, a total of 2383 hours devoted to cultural and disciplinary subjects and 1754 hours devoted to agricultural instruction, or 42% vocational and 58% cultural and disciplinary.

In a broader sense, the sciences are agricultural in nature, forming a foundation for the special technical training. The vocational instruction, therefore, may be rated at 2412 hours, or 58%, and the

cultural and disciplinary, including the military training for the four years, at 1725 hours, or 42%.

COST OF INSTRUCTION—The salary budget for the coming year is \$28,364. The number of students enrolled in the long course to November 30, 1908, is 155. To this number may be added 94 teachers and others registered in the summer school for three weeks, 14 winter course dairy students, registered for 12 weeks; 13 winter course poultry students, registered for six weeks, seven part-time students registered for 23 weeks each, or a total equivalent to 19 students for 36 weeks, making in all an equivalent to 174 long-time students. The cost of instruction per student may therefore be estimated at \$163.00, excluding administrative expenses. The total number of students in Yale university in 1908 was 3306. The salaries for instruction amounted to \$524,576, making an average of \$158.00 as the cost of instruction for each student.

OPPORTUNITY FOR SELF-HELP—Our catalogues have announced year by year that industrious students might earn part of their expenses by securing work in the dining hall, at the farm, or about the grounds. Last year student labor checks were paid as follows:

One student	\$192.77	} more than \$150.00
Two students an average of	180.53	
Nine students an average of	121.77	\$100.00 to \$150.00
Nine students an average of	69.72	\$50.00 to \$100.00
Thirty-two students an average of..	23.85	\$10.00 to \$50.00
Thirty-three students an average of	\$4.32	Less than \$10.00
<hr/>		
\$3,182.98		

STUDENT EXPENSES—No charge is made for tuition or room rent, and board, books, and supplies are furnished at cost. The average expenses of 72 students for the 36 weeks of the last college year were \$177.73 each. This amount included board, room, heat, laundry, stationery supplies, books, breakage, military uniforms. The highest charge on the college books was \$237.33, and the least amount charged to any one student for the nine months was \$144.92.

10 students over \$200, average	\$213.91
7 " \$190 to \$200, "	194.94
13 " 180 to 190, "	184.84
13 " 170 to 180, "	174.37
15 " 160 to 170, "	165.29
10 " 150 to 160, "	155.38
4 " less than 150, "	147.49

Average of 72 students \$177.73

When urging the Morrill Act of 1890, the late Senator Justin S. Morrill took occasion to say, "The Land Grant Colleges are institutions that do not leave the cost of their instruction out of the reach of the many, nor generate habits of profuse expenditure, and are

healthy homes for students, especially those outside of hereditary resources who look only to a life of honorable effort and labor."

MILITARY—(Extract from Act of Congress approved September 26, 1888.)

"The President may, upon the application of any established college or university, within the United States, having capacity to educate at the same time no less than one hundred and fifty male students, detail an officer of the Army or Navy to act as professor of military science. The Secretary of War is authorized to issue, at his discretion and under proper regulations to be prescribed by him, out of ordnance and ordnance stores belonging to the Government, and which can be spared for that purpose, such number of the same as may appear to be required for military instruction and practice by the students of any college or university under the provisions of this section, and the Secretary shall require a bond in each case, in double the value of the property, for the care and safe-keeping thereof, and for the return of the same when required."

Application has recently been made to the War Department for the loan of ordnance stores and for the detail of an officer from the active list of the Army to act as professor of military science at the Connecticut Agricultural College.

Notice has been received that one hundred magazine rifles, caliber 30, model 1898, have been ordered issued to us from the Springfield arsenal.

Advices have likewise been received from the Secretary of War that our college will be inspected with a view to determining whether or not it is entitled to a detail officer. Officers from the active list are appointed for a term of three years, and serve without expense to the college for salary or quarters.

One of the cottages asked for elsewhere is needed for the use of a military officer.

Your attention is invited to several reports having to do with student labor and scholarship, athletics and scholarship, and college discipline, to the report of the Gilbert Farm Committee, and to the reports of the several departments.

Respectfully submitted,

CHARLES L. BEACH.

Student Labor and Scholarship

There was paid to students in the college year 1907-8, for work of various kinds, \$3,182.98, exclusive of \$128 in prizes and military awards. A point of interest is the effect of such work upon the scholarship of those who do it.

In the year mentioned, eight fourth-year students were paid more than \$30 each. Their average grade of scholarship was 82.6. The remainder of the class earned less than this amount, some not working at all, and their average grade was 81.9. Third-year students earning over \$30 averaged in scholarship 78.9, while the others of the class averaged 75.4. It would appear that the amount of work which even the more industrious students are able to secure outside of class hours does not impair their standing.

Time that would otherwise be used for exercise or recreation may be given to paid work without injury to scholarship. It is equally obvious that there is a point with each student where work begins to encroach upon study, and where the necessity of self-support constitutes a sacrifice of scholastic interests. Few of our students, however, seem really to be making such sacrifices at present. The larger earnings include in most cases pay for services in the dining room at meal hours, which would hardly be used for study in any event. It is probable, too, that habits of industry fixed by other work carry over into the periods of study, and are helpful there.

Respectfully submitted,

E. O. SMITH.

Athletics

Athletics at an agricultural college may be deemed, by some, to be unnecessary, for it has been pointed out that boys who come from farms are strong, robust, and well before they reach college. This is true, and it has been pointed out by another, that the boys from farms are, if anything, in greater need of athletic exercises and sports than others, for they change their lives of outdoor work to study, which is, for the greatest part, indoors.

College aims at development, mainly mental development to be sure, but good, clean athletic sports should have a tendency toward

physical and moral development, without detracting from study or scholarship, unless too much time is devoted to them.

Practice for athletic contests comes between the hours of four and six in the afternoon, after recitations are over, and at a time when students are not likely to continue study.

The greater number of the contests take place at Storrs; some of them, however, take place at other institutions. These trips away from the college on Saturday cannot be considered wholly as a loss of time, because they give the students taking the trips an opportunity to see the equipment of other colleges, and considerable interest is manifested, particularly when other agricultural colleges are visited.

There is always the danger of injury connected with athletic sports, yet the danger is not nearly as great as many suppose it to be. During the past year no serious injuries have come to any of the students.

That some idea might be had regarding the effect of athletics upon the scholarship standing of those participating in athletics, the marks of the students were averaged, with the idea of ascertaining, if possible, what the effect was during the past year. All but two of those playing on last year's teams belonged to the two upper classes. The marks of those students taking part in athletics averaged seventy-eight. The marks of the remaining number of boys in the two upper classes, who did not participate in athletics, was found to average seventy-eight, also. One year's averages are not enough to warrant more than very general conclusions, yet we can say that the effects of athletics as they are carried on at this college is not to lower the scholarship of those taking part in any marked degree, if at all.

The support of athletics usually devolves upon the students and the faculty. This year, however, the alumni gave \$200, and their generosity was greatly appreciated by all those who have the interests of athletics at heart.

Respectfully submitted,

G. H. LAMSON, JR.

Committee on Discipline

The Committee on Discipline, as at present constituted, is charged with the oversight of the manners and conduct of the students. It was established by a vote of the faculty—September, 1901—defining its powers and duties, fixing the number of its members, but leaving their appointment to the choice of the president. It discharges its functions in accordance with rules agreed upon by its members. It makes its

reports, in all cases, directly to the president, leaving to his discretion the execution, the modification, or the dispensation of its decisions. Thus, although the vote of the faculty conferred somewhat limited powers, the committee is, in the discharge of its duties, practically independent. In fine, under the sanction of the president's approval, its determinations are in every case conclusive.

A glance at the records will disclose the fact that the committee has for some years exercised powers formerly vested in the faculty as a whole, and of which that body apparently did not intend to divest itself. But this enlarged jurisdiction seems not to have come about from any express design, but rather as a logical development of our conditions. The committee is sufficiently large in number to be fully representative of the faculty, and action is more quickly taken in the smaller body. Perhaps the faculty were willing to be rid of the troublesome questions constantly requiring the attention of the committee. Then, too, the ultimate decision in all matters of discipline seems to rest in the president and his appointees.

"The president of the college, subject to the direction of the trustees, is its executive officer. He has the immediate supervision of all departments, and the direction of all matters pertaining to the welfare of the college. He has the power of outlining the duties of each member of the institution."

While, in recent years, this committee has been described as "advisory to the president," the records show no case in which he has failed to enforce in the fullest sense the conclusions reached by it. He has, in general, retained as long as possible the services of each member, so that the committee has been, more than is usual in such bodies, permanent.

In my opinion the independence of the committee is an element of strength in the sound management of the discipline of the college. The responsibility placed upon those composing the body tends to make them careful so to discharge their duty as to establish and maintain a fair standard of conduct in the institution, without undue or capricious severity. The close association of the men composing the committee and its permanency have resulted in bringing the whole body to the highest efficiency of which the members are capable. All cases that come up for consideration are fairly and fully discussed on their merits. Conscientious effort is made to reach the truth, and in cases requiring punishment, to arrive at a just decision. The committee has never, in making its decisions, considered the possible attitude of either the faculty or the students. The only effort that has been made is to find the exact facts, and to adjust the penalty to the facts as found.

The committee finds a further advantage over the larger body in the fact that it has always been able and willing to devote to the consideration of any case all the time necessary. It is impossible to hold

the whole body of the faculty together for the long sessions that are frequently required. And the members of the faculty are often so engaged that it is difficult for all to be present at any given time. And the committee is convinced that the deliberate conclusions of men who have, in any given case, listened to and observed all the witnesses are likely to be more in accordance with justice and actual desert than the judgment of those who simply listen to a report. In the committee, no case calling for anything in excess of the lightest penalty has ever been decided, save by a full meeting and a vote of the whole membership. Time is always given for the fullest discussion and exchange of views. While there have been many divergencies of opinion, when the committee has finally acted it has uniformly acted as a unit.

That the methods employed have, in the main, been successful seems to be demonstrated by the fact that offenses calling for the major forms of punishment have very greatly decreased—have, in fact, become rare; that although from the very nature of the case this committee is the body most likely to meet with the opposition and the harshest criticism of the students, and has, from time to time, been compelled to exercise considerable severity, the students have, as a whole, in the end, sustained the decisions made in such cases.

It is believed that the committee has the confidence of the students to a gratifying degree, and that this confidence is the result, largely, of the methods employed, and the painstaking investigation that gives due weight to the defense put forward by the culprit. The final disposition of a case has rarely been questioned. It is also believed that the discipline of the institution is excellent. In proof of this I may cite the fact that offenses are mostly confined to such misdemeanors as are the natural result of youthful exuberance.

It is clear that among students of the age of most of those attending the Connecticut Agricultural College, much may be done with individual offenders without resorting to the harsher penalties. We do not forget that to them we are "in loco parentis", and that unless moral obliquity of such a sort that to deal gently with it would have an evil tendency upon others is involved, great patience and repeated effort to influence by personal persuasion should be exercised. Few youths of the age of the average student of this institution are beyond the influence of a kindly personal interest on the part of their instructors. And in most cases, it will be found that this influence is in the end more potent for good than the exercise of the severity that may, perchance, be justified. It is most certainly not true in my experience, that the student is the natural enemy of his professor. And it is true that the members of the committee, in their use of their personal influence to its utmost extent, have rarely found their confidence misplaced.

Besides the voluntary withdrawal of a student, there are three other ways in which his connection with this institution may be severed. He may be dropped for failure to reach the standard of scholarship required in his classes. This implies no stain upon his

character, nor upon his conduct, unless the failure in scholarship is due to invincible idleness. He may be withdrawn by his parents or guardians at the request of the president, because in spite of warning he is persistently turbulent or troublesome, and is doing no good to himself or to the college. There is nothing in this request on the part of the president that implies bad character. The boy is not suited to his environment here, and it is better for him and for the college that they part company. The third method is expulsion. This penalty the committee is most unwilling to inflict, and has rarely done so; and then only in cases in which there was, in justice to the other members of the college, no other way. For in this, there is real and lasting disgrace. The youth is removed because he has proved himself, until he shall have reformed, an unfit associate for his fellows, and a menace to the morals of others; and to one upon whom this penalty has been justly inflicted the doors of other similar institutions are closed. It seems to the committee that this penalty should not be resorted to except in extreme cases, and that once a student is expelled he should not, ordinarily, be again received into the institution.

Perhaps in the earlier history of the college, this penalty was inflicted more freely. The fact that a good many men were expelled, and that they were again, in a very short time, received as students, would seem to justify the inference. If it was true at any time, it is true no longer. If it were ever true, it was in the time when this penalty was reserved for the discretion of the whole faculty. It should seem that a vote of expulsion should be reached with greater effort in the larger body. But according to the records, such does not seem to be the fact. The change in this matter alone would seem to justify the reference of all cases to the jurisdiction of the committee.

Respectfully submitted,

H. R. MONTEITH.

The Lookout

The Lookout is the college magazine. It was founded by the students, and with some assistance from the college authorities it has been maintained by the students and alumni. Like other undertakings depending upon business ability and the character of its output, it has had its vicissitudes—its seasons of prosperity, and its periods of storm and stress. Through all its ups and downs, however, it has in the main responded to the purpose of its founders and supporters. In other words, it has pretty faithfully reflected the feeling, interests, ambitions, abilities, culture, and progress of the students, the questions discussed by them, their outlook upon college life and the world

at large. If to do this be counted as success, and establishes a claim for further support, then it must be admitted that *The Lookout* has been successful—in the expressive parlance of the day, has made good.

But this success, however gratifying in many aspects, leaves something to be desired; something, in fact, in the matter of literary finish, and the saving sense of humor. Perhaps, upon the whole, there is improvement to be noted in both directions. Yet it must be said that the magazine reflects very closely the literary quality of the students. The chief value of a production of this sort is its faithfulness to conditions, and *The Lookout*, so far as it is able to do so, is true to its type. As conditions change, it, too, will change; and as in its previous history, all its changes will be for the better. The failure of the *Lookout* would be the loss of an interesting and valuable feature of our college life.

A glance at the contents of the earlier volumes will lead to the suspicion that the editors were, at times, short of matter. Contributors too frequently deemed their duty done when they had copied with approval some passage from an English classic, and offered it for the admiration of their readers under the heading of *Selected Readings*. So redolent of Storrs life is the magazine on the whole that I am confident that the editors resorted with reluctance to this method of filling space.

The Lookout owes its origin to the enterprise of the students of thirteen years ago. It made its appearance in May, 1896, in the form of a small quarto folder, soon changing to a small octavo of eight pages. This form was retained until 1899, when the magazine assumed its present form and size. It is now a large octavo, offering sixteen to twenty pages of reading matter exclusive of advertisements—eight thousand to ten thousand words.

Some eight years ago, by direction of the trustees, a censor was appointed, whose duty it should be to oversee the general management of the magazine, and to pass judgment on the articles submitted for publication. President, at that time Professor Stimson, was so selected; and on becoming president, made the writer his successor in the censorship. This course has made the magazine of more uniform quality, and has on the whole worked well. The relations between the censor and the editors have been most kindly. But it may be questioned whether this censorship has not taken away some quality of directness from the *Lookout*. Even so, it is doubtless better that the censorship be, for the time at least, retained.

An interesting feature in the history of the magazine is the fact that beginning with the change to the octavo form in February, 1897, it was printed and bound at the college. The editorial note suggesting the beginning of the new regime is interesting: "No doubt many or all of the subscribers of the *Lookout* have been looking for the January issue. Not feeling financially strong enough

to hire another issue printed in the usual way, we have awaited the late arrival of the press, and feel that we must combine the material for January and February in this our first issue."

Whether or not the subscribers were content does not appear. I am sure they should have been satisfied, for this and succeeding numbers, in the matter of interest, and of mechanical execution, compare most favorably with the present magazine. The experiment of the printing at the college, although it seems to me to have been justified by the excellence of the form and appearance of these home numbers, was given up; and the only remains of this period are a broken press, some fonts of battered type, and the undoubted skill in printing of Mr. John N. Fitts, the present head of our mechanical department. It is his editorial note from which I have quoted. It may be of interest to add another note contained in this number: "Mr. C. L. Beach, a graduate of the Wisconsin Agricultural College, has been added to our staff of instructors as assistant in dairying."

By the courtesy of Mr. C. R. Green, of '95, librarian at the Massachusetts Agricultural College, a set of the Lookout complete and beautifully bound came into the possession of the college library. An examination of these volumes is convincing proof of the value of the magazine to the institution. As a complement to the official records it is most interesting. This record is at least full of life and color. The life may at times be boisterous, and the color somewhat strong for the best of taste, but in it is the real relish of life. Nor is the record wanting in moral essays, and articles on great topics. Nor is the use of foresight absent. One enthusiastic young seer beholds the not distant time when the "Nabob in this country will be the farmer." Speed the day.

The college at present aids the Lookout to the extent of one hundred and fifty dollars a year. Should this aid be continued? In my opinion, yes. The list of those to whom the magazine is of interest is not large at best, and of this number, not all subscribe. The burden of management is heavy, and has been well and cheerfully borne. My connection with every board of editors since 1900 has enabled me to see and understand the difficulties under which the managers have labored. The management of A. B. Clark, of '02, Averill, '03, Ford, '04, tided the enterprise over a very difficult crisis, and the aid of the college was necessary to the existence of the magazine. And their successors, no less able, have found their capacity for business taxed to make, each at the end of his year of service, a creditable showing.

Should the college aid give a reason why the faculty should appropriate the columns of the Lookout? By no means. The magazine always welcomes articles from the faculty, and frequently asks for them, but the control of its columns and the entire management of the enterprise should be left to the students. It was a student enterprise from the beginning. It is an exponent of student life and views, and it should remain so. When the time shall come in which the Lookout

can do without the aid of the college, the managers will gladly dispense with it.

The Lookout seems to me to be a valuable feature of our college life. It should receive the hearty support of the college authorities, and such reasonable aid as is needed to supplement its own resources. In matters of election of editors and management, the faculty should not interfere in any way unless interference should become necessary. While for the present at least, some oversight of its columns should be maintained, it should be relaxed as much as possible with a view to its gradual withdrawal and the distinct purpose of placing the responsibility upon the editors. In the growth of the college, with the increase in age and with the better preparation of the students, this may be done.

Respectfully submitted,

H. R. MONTEITH.

Gilbert Farm

The Gilbert Farm has been the property of the Connecticut Agricultural College since April 23, 1906. A report of the progress of the farm, a financial statement, and an outline of proposed work has been submitted to the board of trustees each quarter, but as this is the first report to be printed in the college annual report, it is fitting that a brief history and description of the farm, and a review of the work accomplished since its acceptance by the board of trustees, be outlined.

Mr. Edwin Gilbert, President of the Gilbert and Bennett Mfg. Co. of Georgetown, Fairfield Co., Connecticut, realizing that the people of this state were paying the railroads vast sums of money for bringing our beef from the West, while we had hundreds of acres of good farming land in Connecticut lying practically idle, said, "Why not use this cheap land in Connecticut for raising beef?" He accordingly bought three farms on the hill east of Georgetown, known respectively as the Hohman, Schultz and Bennett places, comprising altogether 252 acres, mainly wood land. About forty acres can be mowed or plowed, though it is very rocky land and is divided by stone walls into fields averaging about three acres each.

Mr. Gilbert, as he by reason of old age and poor health relinquished the active duties of a manufacturer, became an enthusiastic farmer. He built two silos of a hundred tons capacity each, and two barns that will accommodate one hundred head of mature stock and have besides many box stalls for calves. The basement on the west side of the larger barn was fitted for pigs, and when we first visited the farm, in

December, 1905, was filled with fine pigs of all ages, in which Mr. Gilbert took much pride. He started a herd of registered Herefords and bought a carload of shorthorn steers to feed and fit for market. A large force of men were put to work clearing away stones and brush and draining the fields. Had he lived ten years longer he would undoubtedly have made those rough, unattractive acres into a model farm, of which Connecticut might well have been proud. Unfortunately, after three years of ownership, Mr. Gilbert died. It was then learned that he had bequeathed his farm, with stock and tools thereon, to the Connecticut Agricultural College.

The will stated that the farm could not be sold, but must be maintained as a farm, and used for instruction in practical agriculture. It also gave the college 1200 shares of stock in the Gilbert and Bennett Manufacturing Company, the income of which was to be used on the farm. Mr. Gilbert was anxious to help the farmers of his locality, and when he found that he must soon give up his mission, he entrusted it to the Connecticut Agricultural College. The farm was accepted April 23, 1906. Since that date we have undertaken to carry out the letter and the spirit of the will, and to fulfil Mr. Gilbert's plans as we understood them, to the best of our ability, with the funds at our disposal.

No money except the dividends from the stock and the income from the farm has been used, neither has a dollar of said income been diverted to any other use.

As there were no available funds when the farm was accepted, we immediately sold the beef stock and pigs, keeping only such cows as we thought might be profitable, the young stock, a boar and four sows. When the steers were slaughtered, we were shocked to learn that eight of them were affected with tuberculosis. Consequently the herd was tested, all responding animals were disposed of, and the herd has been tested each fall since. The animals responding are removed from the barn, the mangers thoroughly cleansed and disinfected, and the whole barn whitewashed. We have not yet been able to exterminate the disease.

It was our aim to get the farm on a self-supporting basis as soon as possible, and so reserve the dividends to be used for permanent improvements or instruction. This is still our aim. It has been our policy to fulfil Mr. Gilbert's plans, as far as we were able to learn them, to demonstrate by practice the methods of agriculture taught by the various departments of the Connecticut Agricultural College, to spread college influence, to assist those engaged in agricultural pursuits in that portion of the state, and to develop the farm by increasing its fertility, clearing fields of stones and brush, removing useless walls, growing clean crops, etc. In short, we want the farm to illustrate practical, profitable methods of up-to-date agriculture for Connecticut.

We should have been glad to conduct experiments showing the possibility of a profit from growing beef and mutton in Connecticut,

but we had not sufficient funds to warrant such experimenting. We feel that such was Mr. Gilbert's plan, and that accurate, practical experiments along that line might be of great value to many farmers of the state. And we hope that by accumulating dividends and perfecting the physical condition of the farm, we may yet be able to undertake such work.

We have added a small flock of Shropshire sheep, have thirty cows, sixteen heifers, and fourteen calves. The cows are grade Guernseys and Jerseys. The calves are sired by Butterfly's Golden Laddie, a registered Jersey bred at the college. There are also three registered Jerseys, three registered Herefords, and three high-grade Holsteins. The milk from each cow is weighed and recorded daily. The cost of keeping each animal on the farm is estimated and recorded each week.

As to permanent improvements: A portion of Mr. Gilbert's basement piggery has been utilized for a sanitary milk room, where the milk is received through a floor funnel from the stable above, aerated, cooled, and shipped from the north end. Utensils are received at the south end, washed, rinsed, and sterilized. The remainder of the piggery is used as a sheep pen. It was not our object in this reconstruction to show what money could do, but to demonstrate the principles of producing wholesome milk without increasing the daily cost. The milk is sent to a neighboring town, where it is retailed at ten cents a quart. A sample sent to the last annual meeting of the Connecticut Dairymen's Association had the lowest bacterial count of any sample there. We have installed a water system, consisting of a 12 ft. Gem windmill and a 15,000-gallon water tank. This furnishes an adequate supply of spring water through the two cow barns, horse barn, dairy room, and farm house. We have torn away old, dilapidated buildings, painted the two large barns, painted and repaired the old house, raised and remodeled the horse barn, built a new barn connecting the horse barn with the cow barn, as Mr. Gilbert had planned to do, built a hundred-ton ice house and a pond large enough to cut two hundred tons of eight-inch ice. Hundreds of loads of small stones have been picked from the fields, and many large ones have been blasted and drawn away. Three stone walls have been removed. Several varieties of corn have been planted each year in plots side by side, all being treated the same, to show the relative merits of each variety. Clover seed has predominated in all new seeding, and has done very well. Alfalfa plots have been tried with various formulas of fertilizer, with and without lime, also with and without soil from Mr. Sadd's successful field.

Thus far dairying has received more attention than any other branch, because that was what the farm was best fitted for, and the quickest way to make it self-supporting and to increase its fertility. Later we hope to take up beef, swine, poultry, horses, orcharding, and

forestry, in each case demonstrating the methods taught by the respective departments at the college.

Trustees and faculty alike have shown an appreciative interest in the development of the farm. Credit is due ex-President Stimson. He was the first to visit Mr. Gilbert, and the first to learn of his liberal bequest. He has visited the farm several times, written hundreds of letters regarding it, and made many timely suggestions regarding its management.

Mr. Proudman has kept the books, showing all receipts and disbursements and the monthly balances.

Prof. Beach early advised regarding the purchase of stock, sale of cream, raising calves, etc., and later Prof. Trueman approved of the new dairy-room plan, and has occasionally inspected and scored the stables.

Prof. Esten has shown an interest in the clean milk production; he prepared Mr. Burr to take charge of the bacteriological work, and has assisted him in fitting up a laboratory.

Prof. Wheeler, with the aid of advanced students, made a survey of the farm, laid out the ice-pond, and advised regarding the water system.

Dr. Lehnert has tested for tuberculosis, prescribed for the disinfecting of stables and the care of sick horses, cows, and sheep.

Prof. Clinton has shown a friendly interest, advising in the use of fertilizers, methods of tillage, etc.

Mr. Garrigus bought the sheep, assisted in the purchase of cows, selected the bull to head the herd, has selected and sent there many of the workmen, and has furnished an unlimited amount of sound judgment in the general management of the stock and farm.

We are indebted to Mr. L. C. Root of Stamford for our milk trade and some good features of our dairy plant.

Mr. J. H. Hohman, the former owner of the farm house and a portion of the farm, superintended the farm for Mr. Gilbert and continued as superintendent for the college until Jan. 1, 1907. A. B. Clark, a graduate of the college in 1902, was then appointed superintendent and served until March 1, 1908, when he was succeeded by H. B. Cooke, a dairy course man of '99.

There are some urgent needs of the farm that should be met before taking up other lines of work, and before any instruction or scientific investigation is undertaken, a few of which are: a good road to Georgetown village; clearing the fields of rocks sufficiently to permit the use of a mowing machine, plow and harrow; the equipment of the north barn with a double row of modern mangers and with better stock; and a cottage for the superintendent.

Respectfully submitted,

G. S. PALMER,
L. J. STORRS,
A. J. PIERPONT,

Gilbert Farm Committee.

Agronomy

The work of my department during the past year has been along the same general lines as heretofore. One half of my time is devoted to duties connected with the Experiment Station.

AGRICULTURAL PHYSICS—During the fall term of the third year instruction is given in agricultural physics. This work might very properly be called "Soil Physics and Fertilizers". The instruction is given entirely in lectures. Reference books such as the *Cyclopedia of Agriculture*, by Bailey, *Soils*, by Burkett, *Agriculture*, by Brooks, *Soils*, by Hall, and various other similar works are freely used, but none is used as a text book.

AGRICULTURAL ECONOMICS is given during the winter term of the fourth year. This is a comparatively new subject in agricultural college courses, and there is no book which will serve as a text book, and but one or two reference books of value. This subject is assuming more importance each year and is being given a larger place in our college courses. The Relations of the Farmer to the Community, and The Farm as an Investment and as a Business Proposition, are given consideration in this course. The abandoned farm of New England is not due to a worn-out soil, but to a transition in social and economic life.

FARM CROPS is the subject given in the spring term of the fourth year. Instruction is given relating to the soil preparation, seeding, and management of the various crops grown in New England. So far as possible the class-room work is illustrated by operations in the field. In the fifth and sixth years instruction has been given in farm management, soil physics, and in farm machinery. With our present equipment this work cannot be given satisfactorily. A tool house is needed so that the various implements owned by the college may be available for study and testing.

An agronomy laboratory is needed to properly conduct the advanced work in soil physics and seed testing.

THE COLLEGE FARM is made to serve two purposes—to grow crops needed by the college stock, and to furnish a laboratory for students where may be illustrated in practice the principles taught in the class room. The new piggery, a stone structure eighty feet long by twenty-four feet wide, is a model of its kind. All floors are of concrete, the troughs are of concrete, all partitions are of woven wire with steel gates, and the roof is of slate. This will greatly facilitate

the care of the college swine, and it is believed that this type of building may be adapted to the need of any farm where swine are kept.

Under the immediate supervision of the farm superintendent, Mr. H. L. Garrigus, various improvements have been made, the college teaming has been done, and the farm crops have been successfully grown and harvested.

Respectfully submitted,

L. A. CLINTON.

Farm Superintendence, Animal Husbandry

The work of the Farm Department for the past year has been much the same as in previous years, with some additions.

It has been our policy to grow representative crops of hay, grain, ensilage corn, potatoes, etc., and to take care of the freight and heavy passenger service from the station. This department has also done some outside team work, and it is our endeavor to make some permanent improvements on the farm each year.

The transportation for the college and its various departments steadily increases, and during the past year the farm teams handled the materials for the new piggery and for the new horticultural building.

A twelve-acre field on the Snow farm was leased this season and planted to potatoes and corn. In all there were eighteen acres of corn, five and one-half of potatoes, and four of rye grown. We also cut over about one hundred acres of grass, some of which is campus, and quite a large portion is of such a nature that at present it can be used only for the production of hay.

About twelve acres were reseeded this season, eight of bottom land and two of very rough land that had to be cleared of a large number of rocks and stones. A wall was started on the north side of the barn yard in order to make use of a part of the stones removed from one of these pieces. We have also built a substantial cement watering trough in the yard. In addition to this the new piggery has been graded around, and the floors have been finished. Some of the land immediately surrounding the new piggery was so well covered with stone that it was necessary to clear it in order to take advantage of the building. This has been done, and the stone were used to fill an old pond hole south of the building.

The principal needs of this department are a suitable place in which to house, repair, and exhibit our farm machinery and tools; also funds to repair and build fences, to repair the drains in the bottom

lands, and to drain and improve the four acres across the road from the lake.

In animal husbandry there are three lecture periods a week and two afternoon periods for judging stock. It has been my aim this year to provide lectures on the history, classification, and characteristics of the various kinds of live stock covered in this work. In actual judging, I made use of such animals as were available. We also took one or two trips outside for this purpose.

The principal needs of this department are animals to judge and a place in which to judge them.

The new piggery will make available such animals as we have in this branch. We also hope to have some steers that will give us a start in material for work in beef cattle.

I would recommend that sixteen or twenty steers of different beef breeds be purchased in the spring and fitted for use another year, and that the beef be disposed of locally; that the farm teams be improved as fast as practicable and animals provided that would be a credit to the college and representative of some distinct type of draft animals; also that specimens of more than one breed of sheep be purchased in the near future, to add to this branch of the work.

Respectfully submitted,

H. L. GARRIGUS.

Dairy Husbandry

The work of the Dairy Department has been carried on much as usual. Some improvements have been made in equipment. A simplex churn of the best combined churn and butter-worker type has been placed in the churn room. The dairy barn has been improved by building cement mangers and laying a cement floor in the cow stable. These improvements were much needed and add materially to the convenience of doing the work and to the sanitary condition of the barn.

Delos L. James, assistant in dairying, resigned September 1st in order to resume his studies at the University of Illinois, and E. B. Fitts, a graduate of this college with the class of '93, was appointed to fill the position. Mr. Fitts held the position of herdsman in the dairy department for the greater part of the year just past, and has been extremely successful in improving the condition of the herd. As practical foreman in the creamery and instructor in laboratory work he is of great value to the department. J. R. Foster has been appointed herdsman to succeed Mr. Fitts.

The college dairy herd has been increased by the purchase of a few animals and by those of our own raising. The total number of

head of neat cattle in the dairy department at the present time is fifty (50).

The dairy herd is used to produce milk and butter for the use of the college people and for experimental work by the Storrs Experiment Station. The experiments for the past year have been mainly on the cost of producing milk and of feeding and developing young stock.

Needs of the Department: The most serious lack in the equipment of the department is a modern dairy barn. It is impossible to secure the proper amount of light and ventilation in the old barn now in use. This condition interferes seriously with the production of the finest quality of clean milk. Furthermore, it is detrimental to the health of the herd. The increase in the size of the herd calls for increased barn room. It seems to be a good policy for the dairy department to furnish all the milk used in the college boarding department. This we are unable to do at present on account of lack of stable room. The breeding operations to improve the herd could also be carried on much more successfully with larger numbers from which to select. A new barn meeting all these requirements would add much to the efficiency of the department, both from an economic and educational standpoint.

Respectfully submitted,

J. M. TRUEMAN.

Horticulture

It is pleasing to report that improvements made the past season have added much to the efficiency of this section of the college, and this will be increased when the improvements are completed. The range of greenhouses reported last year is completed, and has been in partial use the past summer. This range consists of a large plant house, in which specimens can be grown to full development and which is to be devoted mostly to tropical plants furnishing valuable economic products, a show plant house, a vinery, a propagating house to be used chiefly for providing plants for the campus, a rose and carnation house, and a vegetable forcing house, in each of which the principles of growing those plants can be illustrated, and a small house for a students' laboratory. All of these are connected to a convenient work room of good size. These houses are not yet fully stocked and equipped. So far only stock plants from which to grow plants for the grounds, and small specimens of rare economic plants for the large plant house have been purchased. They have, however, been places of interest to visitors, as well as additional means of instruction.

The horiticultural laboratory, of which the corner stone was laid

last May, has been erected but not completed at the date of this report. A portion has been available for use the past fall. This use only emphasized the necessity of the whole for convenient handling of the rapidly increasing classes. This building when completed will have a lecture room to seat sixty, two operating laboratories for practical instruction, a vegetable preparation room, cool rooms, a drafting room, museum, and offices, besides space devoted to botany and further space not yet assigned. The completion of both of these buildings will call for much equipment to make them fully available.

These new structures have also added much to the pressing needs of means to grade and plant the grounds. Some grading and leveling has been done on this part of the campus to put it in presentable shape for the winter. But no additional help over the regular force has been employed. The very favorable fall for such work has permitted this. Plans are already advanced to greatly improve and beautify the space adjoining the horticultural buildings and make it the center of such ornamentation on the grounds. During the summer the campus around Storrs Hall was partly graded and seeded, and cement walks were built. For this a small fund was provided. This portion of the grounds should be completed and the plantings made the coming spring. The college nursery will furnish all trees necessary.

Class work the past year has been much as usual, but as anticipated in the report of last year, the classes are much larger. Fifteen seniors are taking the regular horticultural course, and thirty-five agricultural juniors are in the class in horticulture. While the additional room already in use has enabled the seniors to have a place in which to do additional original investigation, we still have to take the juniors in sections for laboratory practice. It is believed the rooms soon to be provided will enable the college to handle, for some years to come, all students in this department, including those who ask for short courses in the various branches in horticulture. The building completed and equipped, together with the varied and extensive means for horticultural instruction on the college grounds, will place the institution equal to any of its class.

On July 21st, Mr. L. M. Parker was engaged to take charge of the new greenhouses, as the greater variety of plants grown required more extended experience than was necessary in the old house. He has filled the position in a very satisfactory manner.

The season has been a very favorable one for most annual garden crops, but the apple orchards produced much below the average in both quantity and quality. Other kinds of fruit did well, and brought good prices. The department made the usual exhibits of its products at several fairs in the state, besides sending several small displays to various meetings in this and adjoining states.

Respectfully submitted,

A. G. GULLEY.

Poultry Husbandry

As my appointment dates from September 15th only, I cannot submit a report of the work of the Poultry Department covering the year ending November 30th.

During the present term instruction in poultry husbandry is being given in accordance with the schedule. The junior class and a portion of the senior class are taking this work.

The entire plant is being overhauled and cleaned up in preparation for winter. The stock is being culled closely, and it is expected that some additional birds will be secured from prominent breeders. These will include representatives of one or two varieties not found in the college flocks at present.

The short course in poultry husbandry to be given during the winter term promises to bring to the college the usual number of special students, and preparations for the handling of this class are already under way.

The needs of this department are many. If the work is to be expanded, or even continued upon the same scale as during the recent past, an entirely new site should be selected for the poultry plant. The present site is objectionable for many reasons. A new set of buildings is urgently needed, as most of the present structures are far from satisfactory, and they are entirely inadequate to meet the needs of the department. I believe it will be to the interest of the institution to supply this department with an equipment which will enable us to place this special line on a par with the work in dairying and horticulture.

Respectfully submitted,

F. H. STONEBURN.

Meteorology, Bacteriology

The work in meteorology and bacteriology has been conducted during the past year as outlined in previous reports, with the additions of a practical course in soil biology and a general course in bacteriology.

Requests are frequent for students trained in the bacteriology of milk testing for municipal milk supplies and for positions in bac-

teriological laboratories. The demand for trained men in this line of work is much greater than the available supply.

The urgent needs of the department, especially in practical work, are an assistant and a few special microscopes. It is almost sheer folly to attempt to teach bacteriology without showing students what bacteria really are under the microscope. There is only one microscope in the department for the use of forty students. The practical work of each student requires the personal supervision of the instructor, which, with forty students, is impossible in the brief time given to this work.

Respectfully submitted,

W. M. ESTEN.

Botany, Summer School

The elementary work in botany has been carried on much as last year. There has been a slight increase in the number of students, and throughout the year the laboratory exercises have been conducted in two sections. In the fifth-year course there are three students, and two students are taking special work in botany.

I would suggest that for instructional and demonstrational purposes, land near the college buildings be set apart and funds be appropriated for the establishment and maintenance of an agricultural botanic garden, in which shall be grown in small plots arranged according to their botanical relationships the chief economic plants, especially of Connecticut. The orchards and the excellent collection of trees on the campus and in the college wood lots furnish exceptional facilities for the systematic study of fruit, ornamental, and forest trees. With the exception of a few plants in the garden south of Storrs Hall, and the trees and shrubs in the nursery, there is no systematically arranged collection of plants about the college, and those mentioned are confined to horticultural species.

I am brought to the conviction that more emphasis should be given to systematic botany in an agricultural college than is given to the subject in other institutions, and while I believe that a certain familiarity with the native flora is a country child's birthright, there seems no reason why examples for demonstrating structure, function, and classification should not be more largely taken from economic forms than is at present possible. By a well arranged and properly labelled collection in an agricultural botanic garden, as suggested, an idea of the grouping of the higher plants into their orders and families could be most readily obtained by the students. Such a garden would serve as a field museum which the students could consult outside of class room hours, and would be of value no doubt to departments of

the college other than my own. It would be of effective service to the teachers in the Summer School, especially in connection with courses in plant agriculture that may be given.

This year I have collaborated with the state forester in conducting the course in forestry for the fourth-year men, having given the lectures in silviculture.

The course in free-hand drawing has been developed along the lines already laid down by Prof. Wheeler in previous years. The increase in the first-year class has enlarged the course to 38 students and necessitated the making of new drawing boards. In consequence the work of the first half of the term was somewhat handicapped. A larger and better lighted room than is now available is much to be desired.

In the Summer School I gave a course in elementary botany and one in advanced botany with daily exercises, and served as director of the school. As director I have to report a most encouraging session this last summer. Despite the fact that for a large part of the year there was uncertainty as to the continuance of the Summer School and the fact that the printed prospectus was delayed in consequence till well into June, the attendance equalled that of last year, and an increased seriousness of purpose seemed evident in those present. The work in nature study was carried on much as in the previous session. Courses began, however, at eight instead of at nine, and the afternoons were kept free from class room exercises and reserved for field trips and demonstrations.

The arrangement of the courses for this last session was left largely in the hands of the director. It seemed desirable to fit into co-ordinated courses the agricultural instruction, which had formerly consisted of incidental demonstrations and occasional lectures. Accordingly two courses, one in animal agriculture and one in plant agriculture, were arranged with daily exercises in each throughout the session. These courses were well attended, and the interest in the work offered encourages the idea that this line of instruction may profitably be extended another year and separate courses given in poultry, dairying, soil physics, horticulture, and school gardening. There have been requests from members of the Summer School for instruction in domestic science, and a course in this subject might profitably be added to the curriculum. Such expansion of the instruction would render available the peculiar advantages of our institution.

The college is a state institution founded primarily for instruction in subjects which will lead to better agriculture. The Summer School may further this end in two ways.

The location of the college and station is such that few are able to become acquainted with their value to the state without special effort. Whether or not the Summer School can be considered to have any influence upon the attendance at the winter session, there can

be no question but that upwards of a hundred teachers from our Summer School each year when scattered throughout Connecticut will render the people more familiar with the work of the institution.

The college as a state institution, moreover, has a duty to the school teacher second only to that to the student preparing directly for agricultural work. There is at present a movement towards adding agriculture to the curriculum of the public schools, and already some of the graded school teachers have been looking to us for instruction along these lines. Even if it shall be judged inadvisable to add the direct instruction of agriculture to the graded schools, it is highly desirable to foster in teachers a sympathy with nature and country life. One cannot sympathize with people or things that one knows nothing about. It is to my mind the opportunity offered to the teacher to gain a first-hand knowledge of life in the country and on the farm that furnishes the chief justification for the Summer School.

Respectfully submitted,
A. F. BLAKESLEE.

Forestry

The forestry course this year covers a period of six weeks, as last year, but instruction during the first half of the period is this year given by Dr. Blakeslee along the botanical and silvical side of forestry. I have so arranged the work as to give the rudiments of timber and wood estimating, the theory and practice of improvement thinnings, methods of forest planting, and forest protection in the latter half. We are fortunate in having this year an opportunity of making thinnings in the woodlot of the Valentine estate, near the college. The course has also been strengthened by the acquisition of more apparatus. When the new horticultural building is open, and space is provided for the forestry equipment, the course will be well provided for.

It is planned to plant up some of the vacant land belonging to the college with various valuable species for experimental and instruction purposes. The plantation of white and red pines on the road east of the college started some seven years ago has made an exceptional growth. As mentioned in my last report, a state forest established in this vicinity would be a valuable training area for the forestry class. If the General Assembly makes as wise provision for these forests as the Connecticut Forestry Association expects, it will be possible to acquire a considerable area near the college.

There are twenty-four men taking the forestry course this year.

Respectfully submitted,
A. F. HAWES.

Natural History

The class work in the department of natural history covers several different subjects. The greatest amount of time, however, is given to the subject of entomology. Courses are given in entomology to cover the structural, systematic, and economic sides of the subject, with special investigation and research work for sixth-year students.

Specimens have been added to the museum this last year, and the space is entirely taken up.

There is a need of a new set of "pest proof" insect cases. Our insect collection is entirely in wooden cases, and is subject to the attacks of small beetles which destroy the specimens. At present the collections are preserved by fumigating with the different gases from time to time.

Respectfully submitted,
G. H. LAMSON, JR.

Mechanic Arts, Physics, Buildings

The work of the past year has been one of interest and benefit both to the students and to the instructor.

In mechanical drawing an endeavor is made to emphasize the practical side of the work. Tracy's Mechanical Drawing is used, and the plates are interspersed with the sketching and drawing of various models and machine parts. No effort is made to keep students in the same class together; each one proceeds with the work according to his efforts and ability.

In wood work the students are first put through a series of exercises to enable them to become familiar with the uses and handling of the tools. Blue prints of drawings furnish the necessary information for these exercises. Following these exercises the students are taught to make some useful articles in wood, and how to put into practice the rules used by carpenters for laying out braces, rafters, stairs, etc. In the senior year wood turning takes the place of bench work.

In forging the students work from blue prints as in wood work. The exercises consist of the drawing, bending, scarfing, upsetting, filing, punching and welding of iron, and the making and tempering of tools in steel.

The agricultural and horticultural students receive instruction in the designing of farm buildings, wood work, and forging from this department. An effort is made to show the students the value of putting one's ideas first upon paper in definite form, where corrections and alterations are easily made, before attempting to build. The computation of building material, methods of erecting, different styles of framing, etc., are discussed, and examples worked out. Many useful articles, handy about the farm, are designed and made by these students.

The teaching of third-year physics is a continuation of second-year physics, taught by another department, and includes instruction, demonstrations, and experiments in magnetism, static and current electricity, and light.

The general care and repair of the buildings does not vary much from year to year. Minor improvements are continually being made as time and opportunity offer. The new pumping and storage outfit for water is appreciated by this department, and adds quite a little to our fire protection. The heating of the buildings and care of the fire apparatus is superintended by this department.

Respectfully submitted,

J. N. FITTS.

Mathematics, Physics, Surveying, Bookkeeping

The course in free-hand drawing which I conducted during several years was given at the beginning of this school year to Professor Blakeslee by way of relief to me and to him, inasmuch as the teaching of drawing is rather closely related to his work.

AGRICULTURAL ARITHMETIC—The shifting of subjects has enabled me to teach the arithmetic, which I desired to do, and my plan is to coordinate arithmetic with agriculture in the same way that I did drawing and agriculture; and to this end I am giving problems and examples which are closely related to farm life. The subject of most importance, everything considered, is percentage, and the operations of most value are addition and multiplication. At the beginning of the term, therefore, I began the course with a thorough drill in addition, both mental addition and addition by the use of cards containing twenty rows of six figures each, and had the multiplications checked by casting out nines. Arithmetic, as I have explained in a former report, differs from many subjects taught in that it is not sufficient that a student know how to do the problem, but he must be

able to get correct results. It is as much, or should be as much, the business of the student to know that his results are right as to get the results; therefore methods of checking the work are from the outset being taught. In percentage the first examples were taken from grades in surveying, as they furnished an easy check on the computation. Then have followed problems on fertilizers, such as the valuation of complete fertilizers from their analysis; the computation of the cost of plant foods from different sources at present market prices and the quantities and cost of different fertilizing ingredients and filling necessary to home-mix a complete fertilizer of a given kind; examples of creamery records with percentages of butter-fat; payments to patrons, and so on; milk records; materials and cost of painting a building; feeds; and other subjects of practical value to a farmer, susceptible of arrangement in good pedagogic form, and of great interest to the student. I have introduced the foot-rule early in the course for measurements in the English and in the metric system, have taken the class outdoors to chain buildings to be painted, and then indoors have plotted these measurements to scale. Neat and systematic arrangement including the ruling of forms for various records are important. I have collected samples of fertilizing materials for sale in our markets, and I plan to illustrate as far as possible every subject which we use for many computations. Students are interested in and understand best what they can see—what is real to them rather than what is imaginary. In these various ways I shall make this course interesting, practical in value, and well coordinated.

PHYSICS—Four hours of work in this subject will be given during the winter term in place of three which last year came in the fall term, making two terms of four hours each. The time allowance is ample; the course is being conducted as indicated in my last year's report.

SURVEYING—This subject has been shifted from the spring term of the third-year course to a special summer course, which will begin two weeks before the opening of the regular fall term. Under the old arrangement of having a three-hour class on Friday afternoon of each week of the spring term, the interruptions from stormy weather, holidays, and other causes were so serious as to make the instruction hurried and incomplete. By the new plan the entire day during a period of two weeks will be devoted to surveying and mapping. The course is outlined in the catalogue; further comment is unnecessary until the new plan has been tried.

In connection with surveying I have made the necessary measurements and plans for, and have staked out and had constructed, five new tennis courts. These courts were located at the south end of the athletic field, in one row with uniform terraces between adjacent courts, were thoroughly underdrained, and have been provided with substantial backstops.

My classes on the average number twenty-six, which is about twice the average for the entire country. The increasing attendance is apparent and is welcomed.

Respectfully submitted,
C. A. WHEELER.

Library, German

This year has seen no important change in the library management. The apportioning to the library of a certain fixed sum for its maintenance is a great help to the librarian in planning the year's supplies. It is to be hoped, however, that the amount will be increased, as the need of the library is becoming constantly more evident.

We have accessioned from November 1, 1907, to November 1, 1908, 215 volumes. Of these, 23 were bought with money obtained from book fines, 79 are public documents, 22 are bound volumes of our own magazines, and 19 are gifts from other sources. We have now 10,976 volumes recorded in our accession books.

The study of German has been pursued during the last year with the customary amount of diligence. The classes are still increasing slowly, and are now large enough to offer a certain interest both to the pupil and teacher. The aim of the instruction is to give to the student the ability to read scientific German with comparative ease, and this idea, with few embellishments, is held to strictly throughout the course.

Respectfully submitted,
EDWINA M. WHITNEY.

History, English

I have had in charge, during the last year, classes in English, Latin, History, and Civics.

The English of the fourth year comprised a study of English literature from and including the Elizabethan period, with especial attention to the development of the drama. The early literature of America was considered, although the time for this was regrettably brief. The instruction was by lecture and assigned reading. While the survey thus taken was necessarily somewhat general, the class

accomplished a fair amount of sound work and displayed commendable interest. Their previous study of English history proved of great value to the students, furnishing a historical background for the literature.

It seemed wise to lay aside one course heretofore followed—the study of the so-called college requirements in English. It is true that this particular course is at times of considerable value, since we have men representing us at Brown, at Dartmouth, at West Point, and at Cornell; and the entrance to these institutions presupposes a closer familiarity with selected authors than can be given in our more general course. On the other hand, while our doors are willingly opened to those intending, at a later period, to enter such institutions as I have named, we should not be expected, for these special students, to lay aside our own well considered plans.

The English of the first, or entering, class is intended to be a fairly exhaustive study of English grammar. The time devoted to this study, three periods each week, is none too much. It has been an added difficulty to the class that for the last two years a change in instructors has been made at mid-year. This has, of course, been something of a hindrance to the highest success. Yet it is believed that the class has made excellent progress, and has laid the foundation for sound work in later years. There has certainly been no lack of interest on the part of the students.

The history of the United States has been assigned for the first-year students. As before their entrance here all have spent a considerable time on this important subject, and have covered more or less thoroughly the whole ground, it has been thought best to study somewhat intensively the period of the formation of our government. This course has the additional advantage of permitting a parallel study of civil government, to which a part of the time allotted to the history of the United States is devoted.

English history is allotted to the second year. It is, perhaps, to be regretted that there is not more time for the students to spend in reading. Much more could be accomplished with the aid of assigned reading. But it is recognized that with the effort necessarily devoted, in this year, to mathematics and to science—both essential to the success of the student in his later years—there must be some curtailment of the reading. At the same time a fair knowledge of English history is of the highest importance, and the time devoted to it is wisely spent.

Several of the fourth-year students asked for a course in the history of the development of the English government, and of the constitution of the United States. This request was met by lectures on the parliamentary history of Great Britain, followed by lectures upon the Confederation, and the Constitutional Convention of 1787. It seems that such a course must be of the highest value in an institution of this sort, since the greater part of the men go from our lecture

rooms directly to their life work upon the farm, and this study is one that is of the greatest interest and value to every student.

The Latin may, perhaps, be passed with little comment, since it has seemed wise that it be dropped from the curriculum. *De Mortuis, nil nisi bonum*. It need only be said that the students electing this language have uniformly done well with it, and have given it up with reluctance.

Respectfully submitted,

H. R. MONTEITH.

English, Economics

In comparison with instructors whose departments show yearly changes in equipment, organization, or methods, we who conduct the purely academic work of the college find less abundant material for an annual report. There is given us each year, however, an opportunity to state the nature of our courses, to explain the methods employed, and to offer any suggestions that have grown out of our work.

The course in second-year English is one in rhetoric and composition. After their thorough study of grammar in the first year, the students are ready to consider the structure of the larger units of discourse and to give attention to the qualities of good writing. The text-book used is of recent compilation, and is planned to give practice in applying the principles of composition as soon as they are understood. Thus a considerable amount of writing is done through the year, largely upon topics of the students' choice. This work is subject to criticism in class, the prospect of such favorable or unfavorable comment doubtless serving as a stimulus to more careful preparation of the themes. The study and practice of this course offer an opportunity for decided improvement in the students' power of expression, native ability and disability entering as elsewhere to affect the rate of progress and the grade of achievement.

In English 3, for third-year students, the unevenness of preparation of the class presents somewhat of a problem. There are now in this course students whose previous study of English varies from four years at high school to no work of high-school grade. The situation arises on the one hand from the fact that high-school graduates must enter at this point in our courses in order to begin work in agriculture or mechanic arts, and on the other hand from the presence in the class of "associate" students in agriculture, not candidates for a diploma, lacking preparation equivalent to our first two years, but permitted to enter the regular third-year work of the agricultural

course for such advantage as they may obtain. It may be that in certain subjects the general maturity of the associate students offsets their lack of specific preparation, especially as they pursue during the year courses in chemistry and botany. But in English their presence makes it difficult to outline a course that will meet their needs without sacrificing the time of the remainder of the class.

So far as the high-school graduates are concerned, I have seen fit this year to excuse them from the course, if they desired to withdraw. Some have not availed themselves of the privilege. For the remainder, made up of students who have been three years or two years in high school, those who have completed our second year, and the associate students, I plan a course in composition intended, as stated in the catalogue, "to lead to some fluency and effectiveness of style through practice and the selection of familiar and attractive subjects." A review of the units and forms of discourse is included, as are also lectures upon topics related to the general purpose of the course. Some collateral reading will be required. Common ground is thus provided upon which varying aptitudes for writing may be exercised, and there will be as much criticism of individual composition as time will permit. To secure examples of contemporary writing for study, the members of the class have subscribed for a period to the "Atlantic Monthly." Incidentally they will become familiar with a periodical of high grade.

At present I am giving but one course in economics, which appears in the schedule of the third year. As this course runs through only the winter term, it has seemed more profitable to use the time for lectures than for recitations. The difficulty that writers of text-books upon this subject experience in presenting it in fewer than six hundred pages, suggests my reason for preferring lectures: more ground can be covered in this way. I should be glad to have three hours a week through the year for an elementary course in economics upon a recitation basis, but this does not appear to be practicable just now.

As secretary of the faculty I continue the duties which have come to be associated with that office. These include in general the keeping of student records, preparing reports and certificates, and assigning rooms. Some statistics of the enrolment to November 30, 1903, are given below:

Students previously in attendance	67
New students	88
<hr/>	
From Tolland county	27
" Fairfield county	25
" New Haven county	19
" Hartford county	16
" Litchfield county	13
" Middlesex county	9

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" New London county	5
" Windham county	4
	<hr/>
	118
" other states	32
" other countries	5
	<hr/>
Male students	127
Female students	28
	<hr/>
Day students	20
Boarding students	135
	<hr/>
Agricultural students	108
Mechanic arts students	17
Domestic science students	27
Not classified	3
	<hr/>
First year	42
Second year	19
Third year	46
Fourth year	36
Fifth year	3
Sixth year	1
Specials not classified	7
Short course	1
	<hr/>
Under 15 years	8
Between 15 and 16	12
" 16 " 17	22
" 17 " 18	18
" 18 " 19	25
" 19 " 20	16
" 20 " 21	17
" 21 " 22	15
" 22 " 23	8
" 23 " 24	6
" 24 " 25	1
Over 25	7
	<hr/>
Father's occupation:	
Agricultural	68
Not agricultural	70
Deceased, or occupation not ascertained	17
	<hr/>

The number of new students enrolled this fall is larger than the number of old students who returned. This is due in part to an increase in the student body, but it also indicates a high rate of mortality. There were enrolled in long courses in the college year 1907-8 one hundred and thirty-seven students, of whom but fourteen were lost by graduation, leaving fifty-six who withdrew during or at the end of

the year. Such losses occur chiefly among special students and in the first and second years. An encouraging proportion of those who reach or enter the third year remain to the end of their courses. The present fourth-year class, which numbers thirty-six, is by far the largest that the college has seen.

The geographical distribution shows naturally a considerable number from the county in which the college is located, an evidence of local regard which is appreciated, as is the presence of thirty-seven students from other states and countries.

The distribution among courses indicates that the college is still mainly a technical school of agriculture, though the students who enter come about equally from agricultural and non-agricultural families.

Respectfully submitted,

E. O. SMITH.

Military Tactics

The instruction in military science and drill has been continued along the lines followed in previous years.

The fall term is devoted to drill in close order, with some extended order work. About two weeks are spent in squad work, and then the cadets are assembled in company formation. In setting up exercises, it has been found feasible to drill the company as a unit from the very first. Because of the lack of room for maneuvers in indoor drill, an effort is made to include as much instruction as possible in various evolutions during this term to the neglect of the details of setting up exercises and the manual of arms, for which there is more opportunity during the winter months, when these other movements cannot be given.

Up to the present time the number of cadets has been too small to permit of the formation of more than one company, and consequently it has been impossible to give instruction in battalion drill. Increasing numbers have made it possible, for the purposes of instruction, to form two companies, which can be further divided into four for battalion drill, though normally the cadets drill as one company.

The winter term is devoted to indoor drill, consisting principally of drill in the manual of arms and the exercises given in Butt's Manual of Physical Drill. The use of these exercises has increased the interest of the drill and furnished a valuable means for the physical upbuilding of the cadets. The limited drill room, with increasing numbers, makes it difficult to carry on these exercises. In calisthenics, setting up exercises, and rifle drill, each student has only one-quarter the space called for in regulations. During this term, the third-year class has one recitation a week in drill regulations and the manual of guard

duty. The change from the second year to the third year for this class makes it possible to give theoretical instruction to cadets entering after the second year. This change has been found to be very desirable, because of the fact that the company is largely officered from this class of men during their senior year.

The spring term is spent in perfecting the drill in close and extended order and in instruction in ceremonies.

The discipline of the dormitories is in charge of this department, the various sections of the dormitories being in charge of officers who are held responsible for the order in their sections. This system has been in operation for two years, and has given very good results.

Respectfully submitted,

H. D. EDMOND.

Management of Grove Cottage, Home Economics

This building is the only dormitory for women on the campus. The rooms are light and airy, but the number is limited and is not sufficient to accommodate the students enrolled this year. Some live with families in the neighborhood, and others come from homes in the vicinity. If this department grows as we hope it will, and as the increased enrolment this year promises, our facilities for housing the women will have to be increased in some way.

The students care for their own rooms, and take much pride in the arrangement of them. We aim to keep the standards of order and cleanliness high.

Every possible effort is put forth to make the atmosphere of Grove Cottage home-like. Our aim is to send out from the college self-controlled, self-respecting young women. The ordering of our daily life is arranged with this thought uppermost.

There has been no sickness worthy of mention during the past year.

The aim and scope of the department of home economics is outlined in the catalogue. That the interest in the various branches taught is steadily increasing is shown by the increase in the elective work.

The laboratory for the teaching of cooking is not ideal in its location. It is in the basement of Grove Cottage, and the entrance to it is dark and unattractive. The facilities for ventilating are poor. Such a laboratory should be light and airy, and if possible, in the upper story of a building. The portable equipment in the shape of desks and

cupboards is fairly convenient, but not modern in any sense, as it was planned over twelve years ago. The room is fitted with a coal range. In addition we have several one-burner, blue-flame oil stoves. This equipment is entirely inadequate for a class of any size, and as the classes grow larger, we find it very inconvenient and not conducive to the best results. All modern laboratories which do work similar to ours are piped for gas, have burners at every desk, and one or two gas stoves in addition to the coal range.

The sewing and dressmaking is taught in two large, airy rooms. More tables for cutting and drafting are needed. We have one automatic and three lock-stitch sewing machines. These are old, and we need new ones. Considering the size of some of our classes in machine sewing last year, the number is inadequate.

We very much need textile materials to form a permanent exhibit. These, together with microscopes, are necessary to make instruction in textiles practical and of value.

Respectfully submitted,

ALBERTA T. THOMAS.

Elocution, Gymnastics

My work during the past year has been carried on according to the plans reported a year ago.

No change whatever has been made in the teaching of first-year English. The division of the work in this department into two branches—three hours per week being devoted to English grammar and two to English literature—has proved satisfactory.

The class work in public speaking remains the same as in previous years, but, owing to the increased number of students who are required to take this work, it has been found necessary to have each student appear in rhetorical exercises but twice during the year, instead of once a term as heretofore. The rhetorical exercises now take the form of literary evenings, held on the second and fourth Friday of each month. I hope by this method to be able to demand a higher class of selections and a better interpretation of the same.

The gymnastic class meets three times a week as previously. The greatest need of this department is a larger gymnasium, as the class of this year is crowded in our present quarters. The examining physician reports a marked improvement in the general health and development of the young ladies since the examination of a year ago. I am expecting the same, if not a greater, development before another year has passed.

Respectfully submitted,

ORPHA C. SMITH.

Music

Instruction is carried on exactly as stated in the report of last year; and an increasing interest in the work is being continually manifested.

A student choir has been formed. At present it numbers eighteen members, all young men. Either two or three rehearsals are held each week, and music is furnished at the college church on Sunday. Great credit is due the members of the choir for their regular attendance and conscientious work.

Music is elective, and it is unfortunate that this department, like all others, cannot have its regular place in the course of study. If music could be treated as a regular study, a certain amount of practice required, and credit given for work done, a much higher standard could be attained.

Respectfully submitted,

ABBY M. HICKS.

Hours of Instruction and Attendance

SUBJECT	Total Hours Per Term 1908-9						Number of Students 1908		
	Lectures			Laboratory					
	Term			Term			Term		
	Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
AGRICULTURE									
3 Agricultural Physics	65			25			35		
4 Rural Economics		60						18	
4 Farm Crops			55			33			18
5 Farm Mechanics.....									
5 Farm Management	26			26		33	3		2
6 Soil Physics							1		
DAIRYING									
4 Feeding	65						10		
4 Breeding	39						10		
4 Dairy Breeds	39			52			10		
3 Dairying.....	26						35		
4 Dairying			50			90			6
HORTICULTURE									
4 Plant Diseases.....	26			12			15		
4 Landscape Gardening	26			30			15		
4 Greenhouse Construction	26			12			15		
4 Plant Breeding	13	12		12	30		15	12	
4 Commercial Horticulture	26			30			15		
3 Junior Horticulture.....	12	55		39	33	30	35	27	25
4 Economic Botany.....		33						9	
4 Special Thesis.....			8	33	40			9	9
4 General Horticulture					20				9
2 Sophomore Horticulture					30				10
4 Spraying		18					15		
3 Vegetable Culture	17						35		
POULTRY HUSBANDRY									
3 Juniors	26						30		
4 Seniors	32			21	36	33	10	3	3
4 Seniors Special	13						10		
ANIMAL HUSBANDRY									
4 Breeds and Stock Judging.....		39			72			7	
4 Veterinary		36						10	
3 Horse Barn.....				24				25	

SUBJECT		Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
MECHANIC ARTS										
3	Mechanical Drawing				78	48		7	10	
4	Mechanical Drawing.				78	48		8	2	
3	Wood Work		12		78	60		4	9	
4	Wood Work.....				78	72		8	2	
4	Wood Work (Agricultural)		12		24	33		24	24	
3	Forging.....					88			9	
4	Forging.....					66			2	
3	Designing Farm Buildings				39			34		
DOMESTIC SCIENCE										
3	Cookery.....	26	24	22	52	48	44	3	5	8
3	Sewing.....				78	72	66	3	9	8
3-4	Emergencies	18	18		8	6		7	1	
4	Household Hygiene.....	26	48	16			6	3	1	1
4	Laundry.....	13	12		26	24		4	3	
4	Dressmaking.				78		66	4		1
4	Cookery.....	26	24	22	52	48	44	2	3	2
4	Household Management.....			44						1
SCIENCES										
2	Botany I.	13	12	11	45	30	33	35	31	27
5	Botany II.	26			52	48	44	3	1	1
5	Botany.....					48	44		1	1
4	Forestry.....	33			24			24		
3	Meteorology	13	12					38	14	
3	Agricultural Bacteriology	13	12					38	29	28
4	Dairy Bacteriology		12	11		36			5	
3	Practical Bacteriology.....				39			36		
3	Physiology.....			55			11			17
3	Entomology.....			33			11			17
6	Entomology.....	39	26	33	26		22	1		
4	Entomology.....	39			13			24		
4	Ornithology.....			72			11			17
4	Geology.....	18	36					26	18	
1	Elementary Science.....	26	24	22				38	22	20
2	Introductory Physics.....	26	24			24		22	22	
3	General Elementary Physics....	39			26			4		
2	Elementary Chemistry.....		60	55		48	44		40	39
6	Advanced Chemistry.....	13	12	11	65	60	55	1	1	1
LANGUAGE, HISTORY, ETC.										
1	English.....	65	60	55				38	22	15
2	English	52	48	44				19	19	16

SUBJECT		Fall	Winter	Spring	Fall	Winter	Spring	Fall	Winter	Spring
3	English.....	39	36	33				34	39	36
4	English.....		48	44				16	5	5
1	Elocution.....	13	12	11				37	18	17
2	Elocution.....	13	12	11				20	22	16
3	Elocution.....	13	12	11				23	39	36
3-5	Beginners' German.....	65	60	55				13	12	12
4-6	Advanced German.....	65	60	55				11	4	4
	Latin (Elective).....	65	48	44				8	4	4
1	U. S. History.....	26	24	22				38	18	15
2	English History.....	39	36	33				19	14	13
3-4-6	U. S. History.....	39	36	33				8	3	3
1	Civics.....	26	24	22				38	18	15
3	Elementary Economics.....		48						41	
6	Elective Economics.....	39	36	33						
MATHEMATICS										
1	Agricultural Arithmetic.....	65						42		
1	Algebra.....		60	65					20	15
2	Plane Geometry.....	52	48	44			22	22	22	20
3-5	Solid Geometry.....	39						9		
3-5	Trigonometry.....		48						17	
4	Analytical Geometry.....	39						9		
4	Calculus.....		36	33					4	5
4	Farm Engineering.....			22			11			21
5	Advanced Algebra.....			22						6
1	Bookkeeping.....					24	22		25	24
4	Surveying.....				96			29		
1	Freehand Drawing.....				26	24	22	34	23	19
MUSIC (Elective) and DRILL										
	Voice.....				104	129	94	25	30	25
	Pianoforte.....				286	249	249	26	15	13
1-2 } 3-4 }	Military Science.....									
2	Drill Regulations.....				39	36	33	110	80	78
			11							14
1-2 } 3-4 }	Exercise (Girls).....									
					39	36	33	28	18	18

Inventories

September 30, 1908

FARM

Live stock,	\$2,112.00	
Products,	3,267.50	
Machinery, implements, tools,	1,854.90	
	<hr/>	\$7,234.40

DAIRY AND CREAMERY

Live stock,	\$4,030.00	
Machinery, implements, fixtures,	3,595.00	
	<hr/>	\$7,625.00

HORTICULTURE

Greenhouse plants,	\$318.05	
Salable nursery stock,	75.00	
Fruit and vegetables,	41.50	
Tools and equipment,	721.25	
Horses and harness,	300.00	
	<hr/>	\$1,455.80

POULTRY

Live stock,	\$855.25	
Equipment and supplies,	897.48	
	<hr/>	\$1,752.73

HORSE BARN

Horses,	\$3,925.00	
Harness, robes, blankets,	361.50	
Wagons and sleighs,	573.00	
Tools and miscellaneous equipment,	213.75	
Feed,	184.00	
	<hr/>	\$5,257.25

NATURAL HISTORY

Apparatus,	\$1,160.00	
Museum,	1,606.00	
	<hr/>	\$2,766.00

CHEMISTRY AND PHYSICS

Chemicals,	\$234.30	
Chemistry apparatus,	1,378.20	
Physics apparatus,	1,357.27	
	<hr/>	\$2,969.77

MECHANICS

Carpenter shop,	\$268.50	
Blacksmith shop,	231.40	
Machine shop,	1,035.00	
Drawing room,	102.00	
Plumbing and paint supplies,	105.30	
	<hr/>	\$1,742.20

Veterinary Science—Instruments, models, etc.,	\$1,456.45	
Botany and Forestry—Apparatus and supplies,	886.00	
Bacteriology—Apparatus and supplies,	790.08	
Mathematics—Instruments, models, etc.,	1,028.69	
Dining Hall—Equipment and supplies,	2,459.09	
Military equipment,	535.15	
Grove Cottage furniture and equipment,	2,480.00	
Library books and furniture,	21,000.00	
Local telephone system,	350.00	
Fire extinguishers,	400.00	
Wagon scales,	150.00	
Furniture and janitor's supplies,	4,925.41	
Office furniture and supplies and miscellaneous equipment,	6,900.00	

EXPERIMENT STATION

Poultry equipment,	\$850.00	
Bacteriological equipment,	1,300.00	
Dairy equipment,	130.00	
Horticultural equipment,	500.00	
Cheese-making equipment,	50.00	
Mycological equipment,	500.00	
Chemical equipment,	1,000.00	
Office furniture, fixtures, and supplies,	1,000.00	
	<hr/>	\$5,330.00
College farm and campus,		\$15,000.00
College buildings,		251,800.00
Land, buildings, and equipment at Georgetown, Conn., ... (Gilbert Farm)		12,000.00
		<hr/>
		\$358,294.02

Treasurer's Report

Report of D. W. Patten, Treasurer of the Connecticut Agricultural College, from Oct. 1, 1907, to Sept. 30, 1908

	RECEIPTS			DISBURSEMENTS		
	Cash	*Transfer	Total	Cash	*Transfer	Total
Annual State Appropriation	\$25,000.00	.....	\$25,000.00	.....	.....	.....
Appropriation for Hort. Bldg. and Green Houses.....	44,997.39	.....	44,997.39	\$45,026.66	.....	\$45,026.66
Endowment Income	6,750.00	.....	6,750.00	.....	.....	.....
Annual Federal Appropriation	35,000.00	.....	35,000.00	.....	.....	.....
Hicks Prize Fund.....	60.00	.....	60.00	68.00	.....	68.00
Interest.....	91.45	.....	91.45	.....	.....	.....
Miscellaneous Receipts.....	353.35	.....	353.35	.....	.....	.....
Salaries—Officers.....	.....	.....	.....	6,154.20	.....	6,154.20
Instructors.....	.....	.....	.....	26,876.59	.....	26,876.59
Lecturers.....	.....	.....	.....	386.28	.....	386.28
Departments:						
Library—New Books.....	.....	.....	.....	76.74	.....	76.74
Periodicals .....	.....	.....	.....	188.35	.....	188.35
Librarian's Student Assistant.....	.....	.....	.....	83.73	.....	83.73
Supplies.....	.....	.....	.....	4.60	.....	4.60
Farm	1,845.15	4,779.32	6,624.47	5,848.98	20.26	5,869.24
Dairy.....	3,921.14	3,242.06	7,163.20	8,165.03	2,050.32	10,215.35
Poultry.....	534.28	1,298.90	1,833.18	2,074.27	74.51	2,148.78

*These amounts represent exchanges of labor and materials among the different departments.

Treasurer's Report—(Continued)

	RECEIPTS			DISBURSEMENTS		
	Cash	Transfer	Total	Cash	Transfer	Total
Departments—(Continued)						
Horticultural.....	\$1,735.90	\$182.48	\$1,918.38	\$2,885.19	365.34	\$3,250.53
Gilbert Farm.....	11,142.59	.....	11,142.59	9,270.42	.....	9,270.42
Forestry and Botany.....	.....	.....	.....	220.98	141.21	362.19
Horse Barn.....	2,387.41	786.87	3,174.28	4,721.17	1,101.79	5,822.96
Boarding.....	16,795.60	1,870.57	18,666.17	14,855.31	5,410.67	20,265.98
Military.....	.....	.....	.....	120.79	.....	120.79
Buildings:						
New Water Tower.....	.....	.....	.....	2,721.15	119.31	2,840.46
New Piggery.....	.....	.....	.....	1,989.90	232.23	2,222.13
Breakage.....	284.06	.....	284.06	275.09	8.97	284.06
Repairs, additions and improvements not elsewhere included.....	.....	.....	.....	3,347.79	.....	3,347.79
Balance on Storrs Hall.....	.....	.....	.....	100.00	.....	100.00
Rent.....	1,856.66	.....	1,856.66	836.22	.....	836.22
Fuel and Light.....	2,946.32	771.40	3,717.72	6,620.74	749.15	7,369.89
Equipment:						
Repairs, additions and improvements not elsewhere included.....	.....	.....	.....	364.22	.....	364.22

Treasurer's Report—(Continued)

	RECEIPTS			DISBURSEMENTS		
	Cash	Transfer	Total	Cash	Transfer	Total
Facilities for Instruction:						
Apparatus .....	..	.....	.....	\$1,242.74	.....	\$1,242.74
Supplies .....	..	.....	.....	1,216.75	375.76	1,592.51
Insurance .....	..	.....	.....	1,057.26	..	1,057.26
Students' Stationery and Supplies.....	\$2,347.17	.....	\$2,347.17	2,757.75	.....	2,757.75
Students' Laundry.....	1,640.34	.....	1,640.34	1,684.12	.....	1,684.12
Medicines.....	49.12	.....	49.12	65.75	.....	65.75
Pew Rentals for Students.....	..	.....	.....	400.00	.....	400.00
Administration, General:						
Freight and Express.....	..	.....	.....	320.12	22.80	342.92
Cartage and Transportation.....	..	.....	.....	146.85	658.88	805.73
Entertainment of Guests.....	..	.....	.....	69.06	396.05	465.11
Commencement Expenses.....	..	.....	.....	157.30	.....	157.30
Telephones and Telegrams	64.22	.....	64.22	196.64	.....	196.64
Traveling Expenses .....	..	.....	.....	952.68	.....	952.68
Printing.....	..	.....	.....	703.96	.....	703.96
Postage.....	..	.....	.....	354.96	.....	354.96
Office Stationery and Supplies.....	..	.....	.....	428.66	.....	428.66
Advertising.....	..	.....	.....	161.06	.....	161.06

Treasurer's Report—(Concluded)

	RECEIPTS			DISBURSEMENTS		
	Cash	Transfer	Total	Cash	Transfer	Total
Administration, General—(Continued)						
Laundry for Guest Rooms & Employees	.....	.....	.....	\$141.32	.....	\$141.32
Grove Cottage Laundry and Supplies...	.....	.....	.....	102.42	.....	102.42
Janitor Work and Supplies.....	.....	\$61.18	\$61.18	2,199.21	.....	2,199.21
Engineer, Plumber and Fireman.....	.....	.....	.....	1,104.56	.....	1,104.56
Board Allowance as part salary.....	.....	.....	.....	.....	1,230.80	1,230.80
Sewerage Plant.....	.....	.....	.....	126.13	.....	126.13
Sewerage Plant Operation.....	.....	.....	.....	45.26	12.50	57.76
Unclassified Items.....	.....	.....	.....	536.72	22.23	558.95
Cash Balances Sept. 30, 1907.....	\$159,892.15		\$172,884.93	\$159,453.68		\$172,446.46
	21,898.96		21,898.96			
Cash Balances, Sept. 30, 1908.....	\$181,791.11	\$12,992.78	\$194,783.89	22,337.43		22,337.43
				\$181,791.11	\$12,992.78	\$194,783.89

Certificate of State Auditors

HARTFORD, CONN., Nov. 25, 1908.

This certifies that we have examined the accounts of D. W. Patten, Treasurer of the Connecticut Agricultural College for the fiscal year which ended Sept. 30, 1908, have compared them with the vouchers therefor, and found them correct. The balances in the hands of said Treasurer on said last mentioned date were as follows:

State Fund	\$5,166.14
Land Grant Fund	32.30
Morrill Fund	17,012.81
State and U. S. Fund	1,481.73
Gilbert Farm Fund	4,530.12
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Total	\$28,223.10

Which funds are all on deposit in several different banks as shown by bank books.

WILLIAM P. BAILEY,
EDWARD S. ROBERTS,

Auditors of Public Accounts.

CHAPTER XXXV

An Act concerning Reports of State Institutions

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. It shall be the duty of the officers of each institution and commission of this State, who are required by law to report to the Governor or to the General Assembly, to give, in the financial statement of receipts and expenditures contained in their respective reports, a detailed statement of the salaries paid to each and every officer and employee for the year ending with the 30th day of September next preceding.

Section 2. This Act shall not apply to any officer or employee whose compensation is less than four hundred and fifty dollars per annum.

Approved, March 17, 1897.

Officers and employees of the college who received more than \$450 were paid at the annual rates and from the funds shown below.

Officer's or Employee's Name	College Funds	Experiment Station Funds	Total
R. W. Stimson	\$3,000.00	.....	\$3,000.00
L. A. Clinton.....	1,500.00	\$1,500	3,000.00
A. G. Gulley	2,200.00	.....	2,200.00
J. M. Trueman	1,200.00	1,200	2,400.00
E. H. Lehnert.....	2,000.00	.....	2,000.00
A. F. Blakeslee	1,800.00	.....	1,800.00
C. A. Wheeler	2,000.00	.....	2,000.00
H. R. Monteith.....	2,000.00	.....	2,000.00
E. O. Smith.....	1,800.00	.....	1,800.00
C. K. Graham.....	1,600.00	100	1,700.00
W. M. Esten.....	800.00	800	1,600.00
E. D. Proudman.....	1,600.00	.....	1,600.00
G. H. Lamson.....	1,000.00	.....	1,000.00
H. D. Edmond	250.00	750	1,000.00
J. N. Fitts.....	1,000.00	.....	1,000.00
C. D. Jarvis .....	.....	1,500	1,500.00
H. L. Garrigus.....	1,320.00	180	1,500.00
A. T. Stevens	900.00	.....	900.00
D. L. James	900.00	.....	900.00
Edwina M. Whitney	800.00	.....	800.00
Alberta T. Thomas.....	1,000.00	.....	1,000.00
Abby M. Hicks.....	500.00	.....	500.00
Orpha C. Smith.....	600.00	.....	600.00
Ethel F. Walker.....	600.00	.....	600.00
Edna M. Butler.....	600.00	.....	600.00
Albert Hedeler	360.00	300	660.00
Christie J. Mason.....	.....	600	600.00
H. G. Carroll .....	.....	660	660.00
Bertha A. Brockhaus.....	.....	600	600.00
E. B. Fitts.....	450.00	450	900.00
Bert Haskell.....	480.00	.....	480.00
Peter Kuckle.....	575.00	.....	575.00
Henry Day.....	535.11	.....	535.11
David Brown.....	480.00	.....	480.00
Joseph Brown.....	476.80	.....	476.80
Daniel Flaherty	691.15	.....	691.15
Fred Gill	617.72	.....	617.72
Jacob Wharmly.....	480.00	.....	480.00
C. H. Copeland.....	472.36	.....	472.36
H. T. Crane.....	529.25	.....	529.25
Fred Lane	840.00	840.00
Jennie Morris.....	480.00	480.00
Will Day	525.00	525.00
J. O. Sullivan.....	480	480.00



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